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PLANT BOOK
and
SHIP'S MEDICINE CHEST



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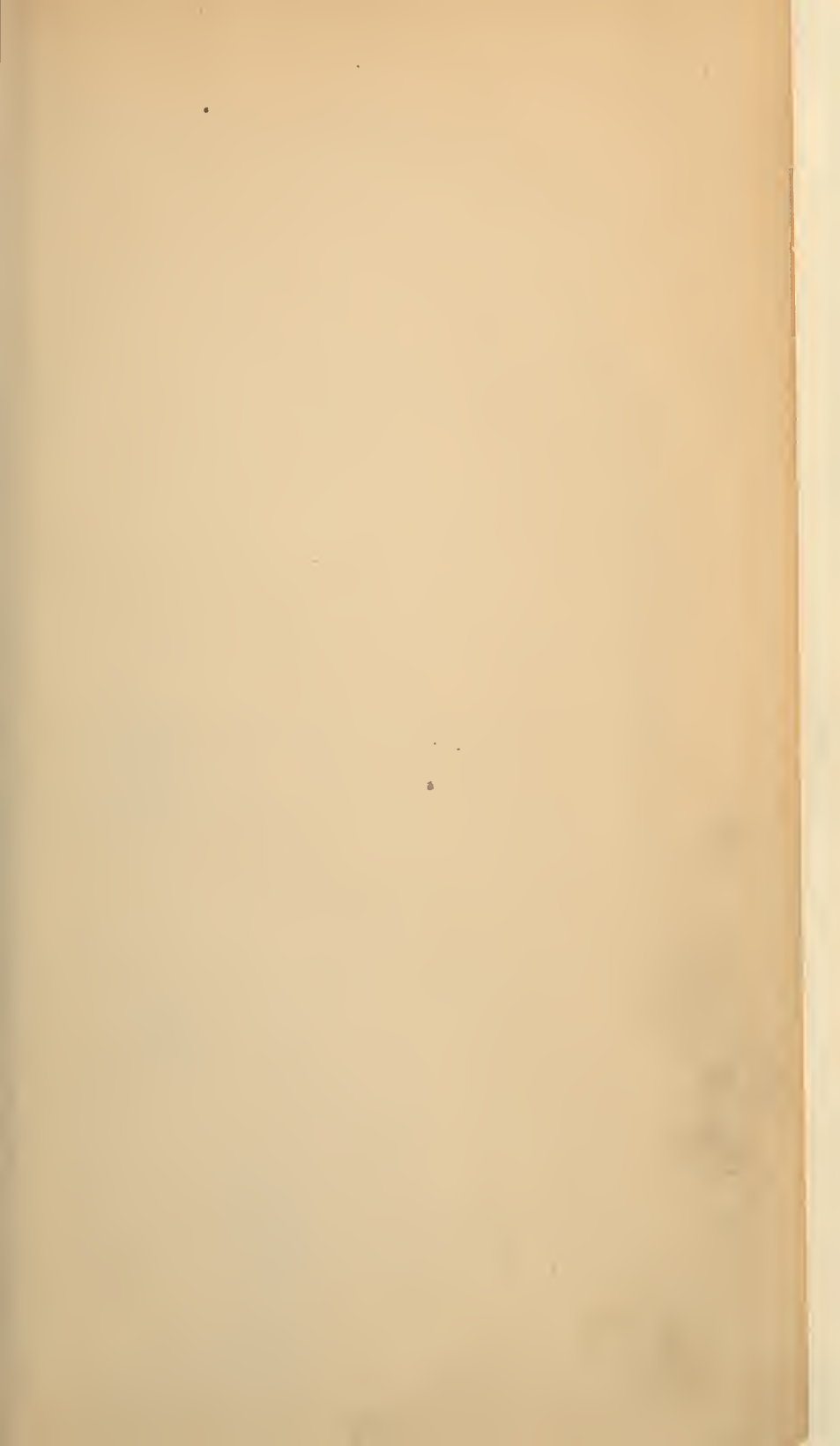
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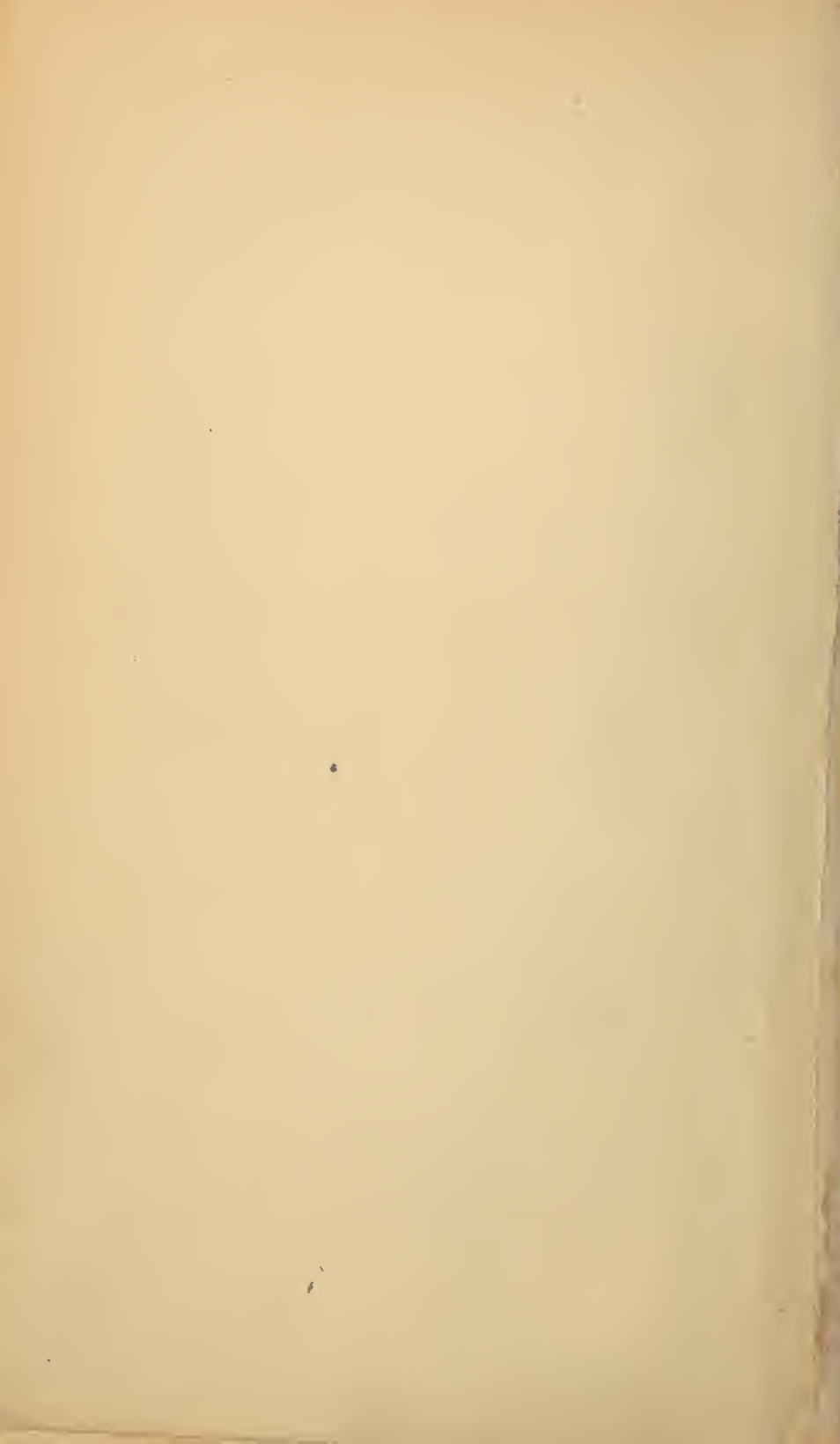


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Treasury Department,

U. S. MARINE HOSPITAL SERVICE,

OFFICE OF THE SURGEON-GENERAL,

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Dec. 10th, 1881

To the Surgeon General
U. S. Army.

Sir:

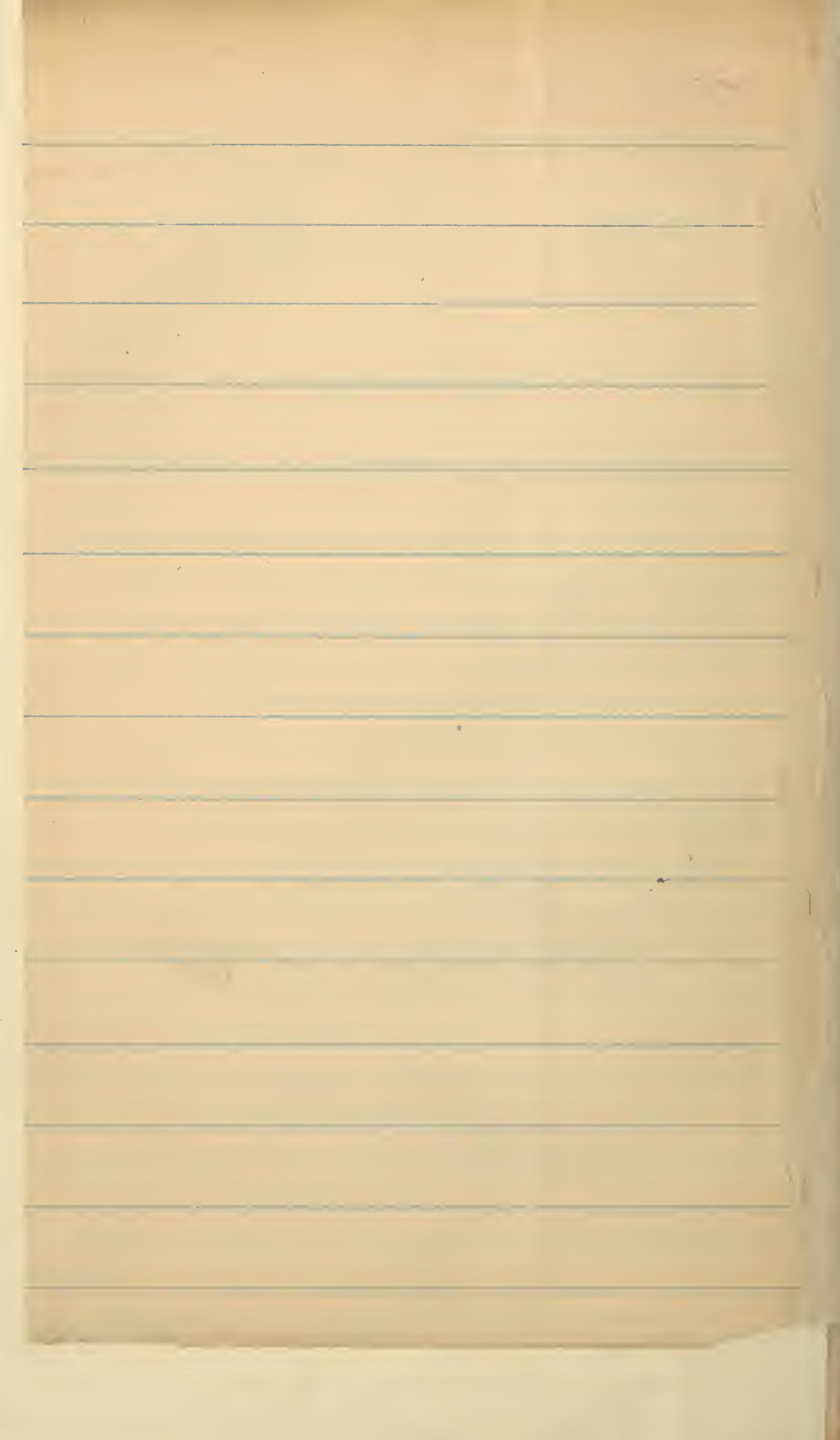
I have this day mailed
to your address five copies of "Hand-
Book for Ship's Medicine Chest"
for the library of your office.

Please acknowledge their receipt.

Very respectfully,

John B. Hamilton

— *Superior Surgeon-General, U.S.*



Mar. Hosp. Serv.
✓
HAND-BOOK

FOR THE

SHIP'S MEDICINE CHEST.

U.S. Marine Hospital Service
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WASHINGTON:
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1881.

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P R E F A C E .

Treasury Department, }
DOCUMENT No. 150. }
Marine Hospital Service.

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL,
UNITED STATES MARINE HOSPITAL SERVICE,
Washington, July 1, 1881.

This book is issued only to vessels subject to the payment of hospital dues, and is intended to be one to which the master or other officer in charge of a vessel at sea may refer for information upon the occasion of an injury to any of the crew or the appearance of sickness among them, to aid in obtaining a knowledge of the art of preventing disease, to give the necessary information as to the means of obtaining hospital or dispensary relief, and to serve as a guide to the proper use of the medicine chest required by law to be kept on board. (Sec. 4569 R. S.) Technical phraseology has been avoided as much as possible, as an article couched in professional language would be useless or worse than useless, for it might be misunderstood and lead to the commission of positive blunders.

It must also be remembered that the size of the book precludes the discussion of subjects about which more or less doubt might reasonably be expressed, but after all, such discussion would only serve as a stumbling block in the way of those who may be expected at best, only to gain a glimmering of a science in which to be fully informed, requires the earnest devotion of a life-time. The suspicion of dogmatism, which might otherwise attach to the work, the writer trusts may be averted when the necessity for condensation is so apparent.

JOHN B. HAMILTON,
Supervising Surgeon-General.

HAND BOOK FOR THE MEDICINE CHEST.

PREVENTION OF DISEASE.

When the vessel is to proceed on a foreign voyage the master should see that dried fruit is added to the ration required by law, which is elsewhere quoted. The men should have the fruit stewed and issued each day at supper while on the voyage. This will be useful in preventing the obstinate constipation which is so often the forerunner of sickness among sailors. The practice of climbing over the bows of a vessel to relieve the bowels is one that cannot with safety be practiced by landsmen, nor, in rough weather, by seamen, and the bowels are frequently left unrelieved for several days, simply from the difficulty in reaching the place which custom has selected. This pernicious evil cannot too strongly be condemned nor too soon abandoned. A simple porcelain-lined spout set to discharge through the scuppers will answer for a water closet if none is provided elsewhere; it can be easily cleansed and is very essential to the comfort of the men.

During the voyage the decks should be kept as dry as practicable. The "eternal swashing of the decks" by daily scrubbing is one of the surest means of making a rotten and disease-breeding ship. It is often the case that a deck plank, bright on the surface, is completely rotten underneath. This is caused by the soaking which the plank receives during scrubbing. *Dry scrubbing with sand daily, when practicable; only occasionally scrubbing with water, and then drying with a good rubber squillgee, followed by a dry swab, will keep the decks clean and postpone rotting.*

THE CREW.—No vessel should proceed to sea unless the men composing the crew have been examined by a competent surgeon and pronounced physically able seamen.—Provision has been made by the Secretary of the Treasury, by which the examinations will be made by medical officers of the Marine Hospital Service, at all principal ports of the United States. At New York, the examinations will be made either at the marine hospital office at the custom house, or at the shipping commissioner's office. At the smaller ports the

examinations will be made only at the marine hospital office, which is usually at the custom house.

No argument is needed to show the great advantage to the owners and the master of having a sound crew on board their vessel, nor to speak to experienced shipmasters of the disadvantages of pursuing the opposite course, for every one who has been in command of a vessel must frequently have called the men aft at the commencement of a voyage only to find a large proportion of them utterly unseaworthy, and that the voyage must be made "short-handed." *Be sure then that your men are sound and healthful.*

THE MEDICINE CHEST.

The medicine chest should be inspected by the medical officer of the Service who examines the crew, and should contain the following articles:

LIST OF MEDICINES AND INSTRUMENTS IN THE MEDICINE CHEST.

Acid nitrate of mercury.	Mixture No. 9, for malarial fevers, prevention of.
Adhesive plaster.	Mustard plasters.
Anodyne, No. 4.	Olive oil.
Bandages, suspensory.	Opium.
Bandages, roller.	Opium and camphor pills.
Binders' board.	Powdered charcoal.
Beef juice.	Paregoric.
Black wash.	Pills, No. 5.
Camphor, spirits.	Plaster of Paris.
Castor oil.	Pair forceps.
Calomel.	Quinine pills.
Cholera mixture No. 10.	Sweet spirits nitre.
Compound cathartic pills.	Saltptre.
Cough mixture. No. 13.	Simple ecrate.
Chlorate potash.	Sulphate of zinc.
Carbolic acid.	Salicylic acid pills No. 12.
Carbolic solution No. 3.	Soda bicarb.
Catheter.	Syringes.
Chloroform liniment, No 6.	Styptic solution No. 1.
Cotton batting (wadding).	Styptic powder No. 2.
Carbolized oil, No. 7, 2 a (frost bite).	Senna extract.
Carbolized oil and laudanum, No. 8.	Sponge.
Dovers powders, 10 grs. each.	Saddlers' silk.
Epsom salts.	Surgeons' needles.
Flaxseed meal.	Sulphur ointment.
Fld. Ext. ginger.	Tincture of iron.
Hollow needle.	Tincture of iodine.
Iodoform.	Tincture iron and quinine No. 14.
Iodide of potassium mixture No. 11.	Tweezers, or forceps.
Laudanum.	Tooth forceps.
Lime water.	Vaseline, cosmoline, or petrolina.
Lint.	
Mustard.	

<p>No. 1.</p> <p>Monsel's solution.</p>	<p>No. 9.</p> <p>℞ Quiniae sulph., 2.5 gm. Cinchoniae sulph., 3.5 gm. Acidi sulph. dil., q. s. Tinct. opii, 3.5 f. gm. Aquae menth. pip., ad 100 f. gm. Dose. A teaspoonful in water.</p>
<p>No. 2.</p> <p>Persulphate of iron.</p>	<p>No. 10.</p> <p>℞ Tinct. capsici, 10 f. gm. Tinct. opii, 25 f. gm. Tinct. camph., 25 f. gm. Spts. ammoniae arom., 25 f. gm. Etheris sulph., 10 f. gm. Dose. A teaspoonful in water.</p>
<p>No. 3.</p> <p>℞ Carbolic acid, 10 gm. Glycerine, 50 f. gm. Aquae, q. s. ad., 500 f. gm.</p>	<p>No. 11.</p> <p>℞ Potassii iodidi, 10 gm. Syr. sarsap. co. Aquae aurantii, aa 50 f. gm. Dose. A teaspoonful in water.</p>
<p>No. 4.</p> <p>Dover's powder (in .60 gm. doses).</p>	<p>No. 12.</p> <p>Salicylic acid pills, .3 gm.</p>
<p>No. 5.</p> <p>℞ Acidi gallici, 7.5 gm. Pulv. opii, 1 gm. Ft. pill No. 50.</p>	<p>No. 13.</p> <p>℞ Ammonii chlor., 1.5 gm. Ext. scillae fld., 3 f. gm. Ext. senegae fld., 3 f. gm. Tr. opii camph., 20 f. gm. Syr. tolut., 20 f. gm. Aquae, q. s., ad 100 f. gm. Dose. A teaspoonful.</p>
<p>No. 6.</p> <p>℞ Chloroform, 30 f. gm. Tinct. opii, 30 f. gm. Tinct. aconiti rad., 10 f. gm. Ol. olivæ, 30 f. gm.</p>	
<p>No. 7.</p> <p>℞ Ol. olivæ, 10 parts. Carbolic acid, 10% solution, 2 parts.</p>	
<p>No. 8.</p> <p>℞ Ol. olivæ, 10 parts. Carbolic acid, 10% solution, 2 parts. Tinct. opii, 4 parts.</p>	

It is supposed that before starting to sea the master will have carefully inspected his medicine chest, and have ascertained that it is furnished with all the articles enumerated above.

ACCIDENTS.

Treatment.—The first thing to be done in case of an injury, is to ascertain its nature by a careful examination of the patient. If the patient has fallen from aloft and is unconscious, this will be a matter of more or less difficulty. If there be no injury apparent, the clothes of the patient should be removed and the body carefully examined for bruises or wounds. Should any wound bleed, the blood vessels should be secured in the wound if the bleeding is by jets. This is best done by taking a delicate pair of forceps or tweezers and seizing the bleeding artery while an assistant ties the vessel between the wounded end of the artery and the

body. When this is done the other end of the artery should be secured in the same manner if possible. In case a wound is not large enough to enable the master to see the point from which the spurting takes place, it is a very proper procedure to enlarge the wound with a knife. Whenever the blood is oozing or does not come by jets or jumps, the bleeding can usually be stopped by the use of lint. When the lint is applied and a bandage firmly secured over the wound, pressing it tightly, and if from certain conditions of the system the bleeding still continues, it will be proper to make use of the styptic solution (No. 1), with which the lint should be soaked before it is applied.

BURNS AND SCALDS.

Treatment.—In case the burn or scald is slight, sprinkle with bicarb. soda or apply cloths wet with solution of soda or borax. If neither of these are at hand, flour may be dusted over the burnt surface, thus forming a crust, which is not to be removed until it falls off.

In severe cases apply carbolized-oil mixture (No. 8), and cover with cotton wool, keeping the parts well saturated with the mixture, and changing the dressings only often enough to insure cleanliness. Pain may be relieved by giving a dose of anodyne (No. 4), and the strength of the patient supported with generous food, and, if necessary, stimulants.

INJURIES OF THE HEAD.

When a man has received an injury about the scalp or face it should be carefully examined to see the nature of the bleeding, whether by spurts or oozing; and, secondly, to see whether there be any fracture or breaking of bones. For the purpose of this examination the wound should be well cleaned with a sponge and the little finger introduced into it, and if any fracture has taken place it can usually be easily discovered.

Treatment.—But little, however, can be done by the master of the vessel in case of fracture except to place the man in his berth, well lashed, raise his head considerably above his body, and administer a full dose of salts in solution, if he is able to swallow. Opium or morphine should not be given, as its use, unless under the direction of a physician, might hasten a fatal result. Gruel, milk, or beef tea may be given the patient as diet; solid food should not be allowed.

While it is a general principle among surgeons that all wounds

of the head are serious, yet a wound may be a simple scalp wound and not extend to the bone. In that event, after making an examination in the manner above stated, the hair should be clipped from about the wound with the scissors, or, if the motion of the vessel will permit it, shaved with a razor, and the edges of the wound stitched together by a needle threaded with silver wire.

A piece of lint should then be wetted with the carbolic solution (No. 3), and laid loosely over the wound without a bandage. The patient should then be kept quiet three or four days. The stitches may be removed at the end of the third or fourth day. The stitches must not be drawn tightly, on account of the swelling which will afterwards take place. Simply bringing together the edges of the wound is all that is necessary. In injury of the head, if the patient is unconscious, and bleeding has occurred from the ears, it is probable that a blood-vessel has been broken within the skull, and the consequences of the injury are likely to be fatal.

WOUNDS OF THE FACE.

Treatment.—Wounds of the face can usually be treated, after careful cleansing, by stitching them in the same manner as wounds of the scalp, and using lint wetted with the solution (No. 3) in the same way. In order to prevent straining on the stitches, it will be very proper to apply strips of adhesive plaster between each stitch, not to exceed $\frac{3}{8}$ ths of an inch wide. The stitches should be removed earlier from the face than from any other part of the body, as they are liable to cause deep scars if allowed to remain too long.

INJURIES OF THE CHEST.

Injuries of the chest which are likely to come under the notice of a master of a vessel (except such as destroy life), will usually be found to be fracture of one or more of the ribs. This injury will be best detected by the pain that the patient feels in breathing, which will be of a sharp character, by a cough, and in some cases by spitting or vomiting of blood. It can also be discovered by grasping the chest of the patient with both hands, and moving them about over the chest during the action of breathing, when, if the rib be broken, a grating will be felt near the point where the pain is the most acute.

Treatment.—The treatment of this injury is best accomplished by using broad bands of adhesive plaster one inch and a half, or two inches wide, reaching entirely around the chest and applied

horizontally from the arm-pits downward covering the whole chest. This plaster should be covered with a bandage from below

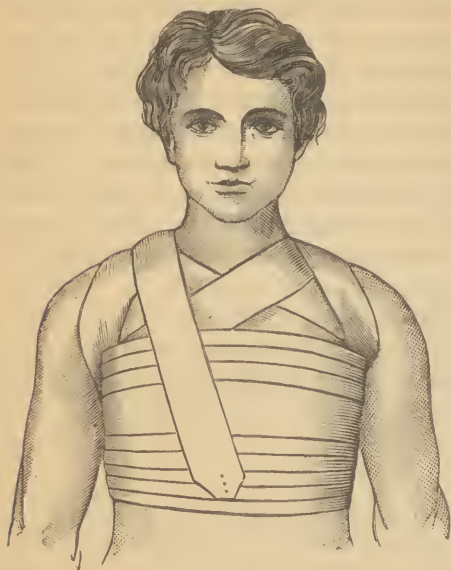


FIG. 1.

upwards, also extending around the chest, and it can be fastened by taking a turn over one or the other shoulder and fastening with a pin at the back. The form of this bandage is shown in Figure 1.

INJURIES OF THE BACK.

In a severe injury of the back the danger to be feared is from paralysis, or loss of motion and sensation in the legs as well as a loss of control of the bladder and bowels.

Treatment.—For an injury of this kind a band-

age should be applied around the hips, extending well up toward the chest, then the patient should be placed in his bunk and securely lashed. A Dover's powder should be given at once, and repeated every two hours if there is severe pain. The next morning, or at least within twenty-four hours, the hand should be placed over the belly of the patient just above the yard, and if the bladder is found to be full, and the patient has not passed his water, it should be drawn by passing a catheter into the bladder. The passing of the catheter will be described in speaking of strictures. If the urine is bloody, one of the pills (No. 5) should be given instead of the anodyne, to be repeated every three hours when the patient is awake, for several days. Care should be taken not to arouse the patient from sleep to give any of these pills, as they contain opium.

Nothing can be done for the legs should they prove to be paralyzed after this injury. Paralysis is a very common result of injuries low down on the back.

Instances sometimes occur where a man falls from aloft and strikes astride a beam or bar or other object and injures his yard back of the purse. When this happens sometimes a stoppage of

water will follow. If the catheter cannot be passed, and the vessel is more than three days from port, the captain will be justified in tapping the bladder with a hollow needle. This should be done by passing the needle directly into the bladder in the center of the belly just above the bone. Pass it freely and directly backward into the bladder, holding the handle a little upwards toward the chin as the patient lies on his back. After the needle has passed into the bladder the urine will flow by raising the patient to a sitting position. This procedure should in no case be attempted if the patient is able to sustain the pain and the vessel is within reasonable distance of a port where the services of a surgeon can be obtained.

BROKEN BONES.

It is not always easy to determine on examination of a patient whether a bone be broken or not, but in the case of any of the longer bones being broken the fact can usually be ascertained by the deformity or shortening of the limb and a grating being felt at the point of the injury. When practicable, the sound limb should be bared and placed alongside for comparison.

FRACTURES OF THE JAW.

Fractures of the lower jaw can usually be detected without difficulty, as a grating will be felt opposite the broken point on movement.

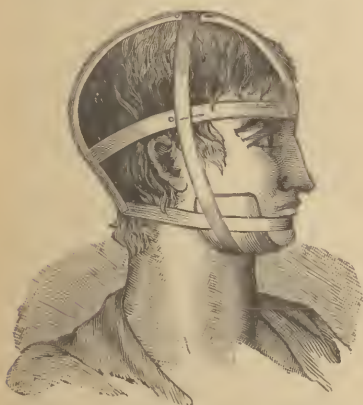


FIG. 2.

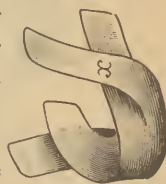


FIG. 3.

Treatment.—The treatment is very simple, and consists in molding a piece of binder's board to the shape of the jaw by softening in warm water, and, after drying, it should be well padded and fastened with a bandage. See Figures 2 and 3.

FRACTURE OF THE FINGERS.

Treatment.—If a finger is broken it will best be treated by taking a thin piece of board or cigar box, covering it with cloth,

placing it on the palm side of the finger, and passing a bandage around the whole hand. The board should be wider than the hand when lying flat upon it, should reach beyond the ends of the fingers, and extend at least two inches along the wrist. One edge of the board (next to the thumb) may be hollowed out to fit the ball of the thumb, which need not be covered with the bandage. This splint should be left on the hand for two or three weeks. When, from time to time, the bandage becomes loose, it may be removed and replaced.

FRACTURES OF THE THUMB.

Treatment.—The bones of the thumb, if broken, may be treated by applying a roller bandage about the thumb and placing it on a splint prepared in the same manner as that for the fingers.

FRACTURES OF THE FOREARM.

The forearm is that part of the upper extremity which extends from the wrist to the elbow. There are two bones in the forearm.

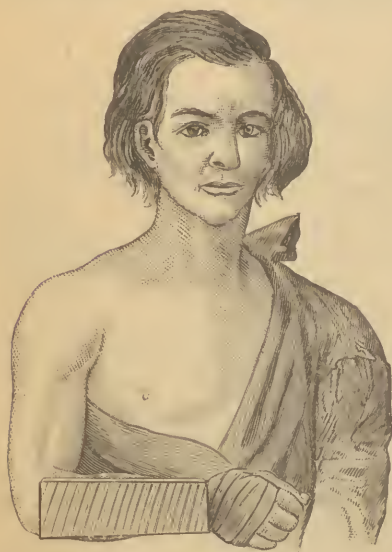


FIG. 4.

Treatment.—If the forearm be broken, the roller should not be applied to it until after the splints are applied, for the reason that if the bones are squeezed together by a bandage they may become united in the process of healing, and the rolling motion of the arm prevented. In order therefore to keep the bones as far apart as possible during the healing process, it should be dressed on a splint prepared in the manner indicated above, well padded before being applied. The splint should extend from the elbow beyond the ends of the fingers, and be

wider than the hand and forearm; a shorter, broader splint should be applied on the back of the forearm. The roller bandage can

then be placed around them, binding both together, after which the arm should be placed across the body in a sling, with the thumb pointing directly upward, and the hand lying flat on the side of the chest. The sling should also support the elbow. The manner of dressing this fracture is shown in Figure 4.

FRACTURES OF THE ARM.

The arm extends from the elbow to the shoulder. It has one bone.

Treatment.—Dressing a broken arm is very simple. It consists in applying short splints around the arm over the fracture, one on each side (four or five inches long will be sufficient), covered and padded as the other splints, and the whole surrounded with a bandage, in order to more certainly keep them in place. The fore-arm will be placed in a sling in the manner heretofore described.

FRACTURES OF THE THIGH.

The thigh extends from the hip to the knee. It has one bone.

Fractures of the thigh are difficult to discover when they are high up near the hip joint, and in many cases they cannot be detected by an unprofessional person. If, however, a sailor has received an injury about the hip, the foot of the side injured falls easily on one side or the other, and the power to voluntarily roll the foot in any way is lost by the patient, it can be safely concluded that a fracture has taken place in or about the hip joint. The only treatment to be pursued in a case of this kind is to apply a bandage about the hip in such manner as to prevent motion as far as possible. It is difficult to prevent motion of the limb even in the best hospitals and with the best appliances, and it becomes almost impossible on board a ship, except in the hands of a skillful surgeon. Let it be remembered that in all severe injuries of the hip, when the nature of the injury is unknown, it is always safe to treat the accident as though it were a fracture.

When the fracture is lower down, between the hip and knee, it can more easily be detected by the difference in the shape and the great amount of shortening that takes place, as compared with the other thigh. There will be pain, the thigh itself will be crooked, and there will usually be a grating felt on applying one hand over the injury and attempting to roll the foot with the other hand.

Treatment.—Place the limb on a double inclined splint, which must be well padded (Figs. 5 and 6). The splint is made with hinges at (A) and (B) so as to place the leg at any angle desired, and

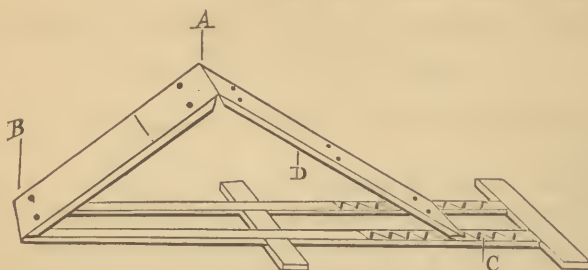


FIG. 5.

notches are cut in the long pieces (C), in which the piece on which the leg rests (D) catches. After the limb has been placed on the splint, a bandage should be passed over the limb securing it from the

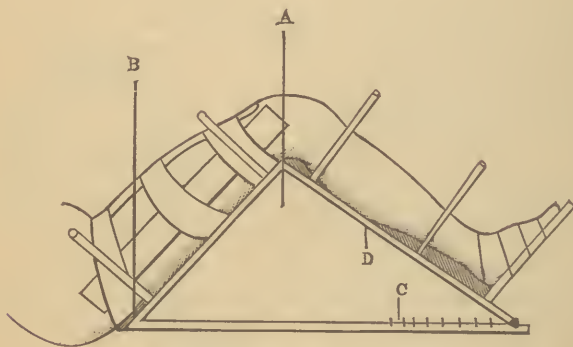


FIG. 6.

heel to the hip. Much pain often occurs in the heel after placing the leg on the splint, which can be relieved by moving the padding around the ankle or placing a pad just above the heel so as to raise it from the splint.

FRACTURES OF THE LEG.

The leg extends from the ankle to the knee, and has two bones. When one of these are broken there will be little if any shortening, as they are usually but slightly thrown out of place.

Treatment.—The easiest, and perhaps the most convenient, way

to treat this injury is to place the leg in a box (Fig. 7) which must be well padded. This will allow free access to the leg at all times, as it can readily be seen by pulling down the hinged sides of the box. A weight attached to the foot may be applied if the fractured ends appear to over ride each other. The ship carpenter can make this box out of ordinary lumber, and if no small hinges are obtainable, bits of leather will answer the purpose.

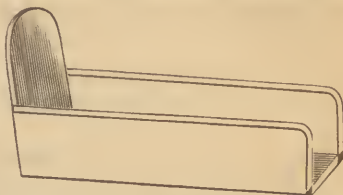


FIG. 7.

Holes should be bored in the upper edge of the sides in order that they may be tied together in front. The leg should be washed every second morning with warm water, openig the closed box at the time for this purpose.

FRACTURES OF THE BONES OF THE FOOT.

Fractures of the bones of the foot are very difficult to discover, unless the soft parts are wounded so that the bone can be seen.

Treatment.—Unless the fracture is an open one, or much swollen, it is best treated by placing a roller bandage about the ankle and foot, and then smearing it all over with a mixture of plaster of paris and water.

When plaster of paris is applied it should not be removed until twenty-one days after the injury, unless much pain supervenes. It is better not to apply the plaster until the third day after injury, in order to allow for the swelling of the soft parts, the foot and ankle, in the mean time, being bathed frequently with warm water, and if much pain is present, chloroform liniment (No. 6) should be used.

Fractures of the toes should be treated in the same way as fractures of the foot.

OPEN FRACTURES.

It must be understood that in giving the treatment for fractures, nothing has been said about those fractures which are open; that is, where the soft parts have been so wounded that the bone is exposed.

Treatment.—Open fractures should never be entirely covered by a bandage; a space should always be left at the wound to allow drainage. A bit of linen cloth, or piece of clean muslin, say half an inch wide and two or three inches long, should be pushed gently down to the bottom of the wound, by means of the blunt

end of a catheter or a probe; the cloth be freshly inserted each day until the wound heals up from the bottom. A piece of lint should be wet with the carbolic solution (No. 3) and laid loosely over the wound. This will not materially interfere with the application of the bandages and splints above described, but a hole should be cut in them opposite the wound.

DISLOCATIONS.

A dislocation is the displacement of a bone from its natural position at a joint.

As in fractures a comparison of the injured side with the sound side is of the greatest advantage in determining the character of the injury. But contrary to the conditions which prevail in fractures there is a loss of motion in dislocations. For instance in a dislocation of the shoulder, the patient will be unable to move his arm in certain directions, whereas in a fracture of the arm near the shoulder joint the motion will be greater after the injury than before.

Dislocations are usually produced by a sudden wrench or twisting of the arms, legs, or body. They have been produced by hauling on hawsers and ropes, swinging from ladders, or falls from aloft.

Treatment.—Dislocations, after they have been properly replaced, should be treated in the same way as fractures, by keeping the part at rest and firmly bandaged or supported until a sufficient time has been given for the healing process to be completed.

DISLOCATIONS OF THE FINGERS.

Dislocations of the finger may be either backward or forward, but they are usually backward.

Treatment.—The treatment in either case is the same; to grasp the finger firmly with one hand, and with the other seize the patient's hand at or near the wrist, and pull directly in the line of the finger with the hand. The bone will usually be pulled back with a distinct snap. Sometimes it may be necessary to take a clove hitch around the finger with a small bit of muslin, stout linen cloth, or handkerchief, in order to get a firmer hold. The pulling need not be very great, but steady.

DISLOCATIONS OF THE THUMB.

Treatment.—In dislocations of the thumb, where the bone overrides the joint at its juncture with the hand, the reduction will be

found more difficult. It is better in that case, while pulling the thumb away from the hand, to give it an inclination backward at the same time the pulling is done. In this case a "clove hitch" is nearly always necessary.

DISLOCATIONS OF THE WRIST.

Dislocation of the wrist is almost invariably produced by falls, where the patient throws out the hand to sustain himself, striking sharply on the palm of the hand. The two bones of the forearm are pushed forward, and the wrist thus presents a peculiar appearance which is not likely to be mistaken for any other injury. It is a very serious accident and will usually result in the formation of a stiff joint when recovery finally takes place, but recovery from this accident is always slow.

Treatment.—Dislocations of the wrist should be reduced by grasping the hand of the patient in the same manner as if shaking hands, using the right hand if it is of the right wrist and the left hand if of the left wrist, with the other hand seizing the forearm above it, while an assistant seizes the forearm just below the elbow and pulls steadily. When the wrist has been pulled back to its proper place it can almost always be retained by bandaging, unless a fracture has taken place, in which event the crooked appearance will usually return.

In the treatment of this injury a splint should always be applied in the same manner as is described in the chapter on fractures. If there is much pain the wrist may be bathed with the chloroform liniment (No. 6) and kept constantly wet with cold or tepid water. In very cold weather warm water should be used in preference.

DISLOCATIONS OF THE ELBOW.

Dislocations of the elbow are also very serious accidents, and can scarcely be treated to advantage by an unprofessional person, from the fact that there is no joint in the body where the same difficulty will be experienced in detecting the nature of the injury. In this dislocation the arm may be thrown directly forward, either bone may be displaced from side to side, or both bones may be thrown forward by reason of a fracture of the sharp bone which forms the prominence at the back of the elbow, or, finally, it may be a fracture of the point of the smaller bone on the outside of the joint.

Treatment.—No force should be used in reducing this dislocation, except what can be applied by the hands, as more injury may result from injudicious meddling than would naturally result from the injury itself.

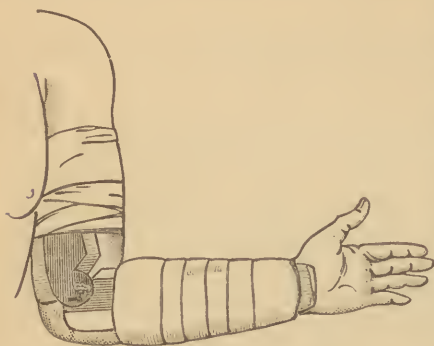


FIG. 8.

The swelling that takes place about injuries of the elbow joint, after twenty-four hours, will make it impossible to tell the nature of the accident, and therefore whatever is done for relief should be done at once. Care must be taken to observe the sound arm, noticing particularly the shape and direction of

the joint, so that in applying force the injured arm will be made, as nearly as possible, to resemble the uninjured one.

It will be well, after the bone is replaced, to apply on the inside an angular splint, made of a bit of pasteboard soaked in warm water, or sole-leather also soaked in water, either of which, if used, must be padded and placed on the inside of the arm with a roller bandage securing it in place, and with the arm firmly resting in a sling, as in fractures. The shape of this splint is shown in the accompanying figure (No. 8).

DISLOCATIONS OF THE SHOULDER.

Dislocations of the shoulder are easily produced, and are also easily restored to their natural position. But it is a principle that the shoulder joint once dislocated is thereafter liable to slip out of its socket if the arm is raised above the head in the muscular effort of climbing, swinging by a rope, or hauling downward. When a sailor is known to have received a dislocation of the shoulder, he should not again be allowed to ship unless he has been examined by a medical officer and pronounced seaworthy.

The shoulder may be dislocated inward toward the arm pit, upward under the collar bone, or backward upon the shoulder blade.

Treatment.—Dislocation inward is more common. This is easily reduced by causing the patient to lie on his back while the operator, after removing his boot, places his heel in the arm-pit of the patient and with both hands seizes the patient's wrist, and by

steadily pulling while using the arm as a lever, it is thrown back into the socket.

Should the arm be thrown backward upon the shoulder blade, the patient may sit in a chair while the assistant standing back of the patient clasps both hands under the arm-pits and supports the body; the operator then seizes the arm, carries it well forward across the chest, at the same time pulling with one hand, brings the arm across the face by a rolling or rotary motion, and then allows it to fall at the side. In this dislocation the arm will be thrown slightly in front of the body, the patient will be unable to move it, and a hard lump will be felt over the back of the shoulder, while the point of the shoulder which on the sound side would be rounded, will, on the injured one, present a sharp angle.

When the head of the bone is found raised just under the collar-bone, it will be discovered as a hard lump at that point, and the point of the shoulder will be very much flattened in comparison with the other shoulder, while it will be impossible for the man to allow his elbow to fall by his side. These characteristics are also common to dislocations directly in the arm-pit. This dislocation may be reduced in much the same way as in the case where the head of the bone is upon the shoulder blade.

After the reduction of these various dislocations of the shoulder, the elbow should be supported in a sling and a broad bandage placed over the shoulder and around the body on the opposite side. All dressing may be removed after the sixth or seventh day, but the patient will not be able to "haul" for two or three weeks.

DISLOCATIONS OF THE COLLAR BONE.

In dislocations of the collar bone but little can be done by an unprofessional person, except to fasten the hand on the front of the opposite shoulder by means of a bandage extending from the arm and shoulder around the body to the opposite side. This should remain for eight or ten days. In this injury, even with the best surgeons, the treatment is frequently unsatisfactory.

DISLOCATIONS OF THE TOES.

Dislocations of the toes are rare injuries, but when they do occur they may be treated in the same manner as dislocations of the fingers. In these cases, as in that of fractures, it will be found more convenient to treat them with a plaster of paris bandage.

DISLOCATIONS OF THE ANKLE.

Dislocations of the ankle are difficult to recognize after swelling has taken place, which usually occurs within a few hours after the injury.

The dislocation forwards of both bones of the leg on to the foot is perhaps the most common, in which event the heel will be seen projecting quite out of its natural shape, and is the most prominent mark of this injury.

Treatment.—It may be reduced by the operator seizing the foot with one hand and with the other grasping the heel while the assistant pulls strongly in the opposite direction by grasping the ankle above the joint with both hands. After the bones have been replaced, it will best be managed by placing the patient where the leg and foot can be kept in a horizontal position, by the patient remaining in bed with the leg extended, or sitting in one chair with the leg in another.

As soon as the swelling ceases, the plaster bandage should be applied to prevent motion of the joint.

DISLOCATIONS OF THE KNEE.

Dislocations of the knee are very uncommon accidents, and when met with require considerable force in their reduction.

Treatment.—The best means of reduction will consist in fastening the patient's hips astride an immovable board or post while a large bandage is attached below the knee with a clove hitch, upon which an assistant makes extension by steady pulling, while the bones are properly supported at the joint by the hands of the operator being placed about the knee, pushing them into position. The knee should then be inclosed with a roller bandage, and the patient should keep the leg straight for several days. The patient should not be allowed to walk for at least two weeks after the injury.

DISLOCATIONS OF THE THIGH.

Dislocations at the hip-joint are always serious, particularly when they occur at a distance from port, as with the best skill they are often difficult to manage, and in any event the master may expect to be deprived of the services of the man for the remainder of the voyage. The position of the foot is perhaps as good an indication as any of the character of the injury, when taken together with the loss of motion at the joint. The head of

the bone may be thrown forward, downward, or backward. The position of the bone in each of these situations is shown in the accompanying cuts. [Figs. 9, 10, 11.]



FIG. 9.



FIG. 10.



FIG. 11.

Treatment.—The reduction need not necessarily require a great amount of force. A skillful surgeon usually effects a reduction by taking the ankle in one hand while the other hand is applied to the hip; the leg is then doubled on the back of the thigh, and the thigh in turn is doubled on the body, while both the leg and thigh are brought across to the opposite limb; the knee is then pushed toward the navel, and with a rolling, rocking motion the leg is suddenly extended and brought down into a straight position. Should the reduction not be accomplished by this means it must be repeated over and over again until the bone is properly replaced within its socket. As soon as the vessel arrives in port the case should be immediately reported to the marine-hospital surgeon, and his attendance requested.

SPRAINS.

Sprains usually occur at the wrist and ankle joint.

Treatment.—Perfect rest, elevation of the limb, and frequent applications of hot-water dressings, give almost immediate relief. The limb should not be used until



FIG. 12.

all pain and swelling has disappeared, and the application of a snugly-fitting bandage will give support to the weakened joint when it is used. The manner of applying a bandage for fractures, sprains, and other injuries is shown in the cut. [Fig. 12.]

In any of the above accidents, if the vessel is near port, the case should be immediately reported to the medical officer of the Marine Hospital Service for his attention and advice.

APPLICATION OF PLASTER BANDAGE.

In applying the plaster of paris bandage before mentioned, it is best to surround the part with a roller bandage. A second bandage is then placed in a basin of water, in order that it may be thoroughly soaked. As soon as this is well wetted, the plaster may be mixed in another basin with a little water until it is the consistency of thickened milk. The wet bandage is then started and with each turn of the bandage the assistant smears it over with the plaster, and so on in successive layers of bandage and plaster, until several thicknesses have been made. The parts should be kept perfectly quiet for ten or fifteen minutes, until the plaster is thoroughly set and hardened.

FROST-BITE.

When the frost-bite is recent, that is, within a few hours, the circulation will be suspended to a greater or less extent in proportion to the depth of the freezing. If the freezing is simply on the surface, but little care need be taken; but, on the contrary, if the freezing be very deep, it will require great care to prevent the parts affected from mortification and sloughing off.

Treatment.—The treatment should be rubbing with great gentleness with snow if accessible until the parts are restored to their natural temperature. This will usually be the work of a few minutes, sometimes half an hour or more. If, however, the freezing has gone on to the extent of rupturing the deeper blood-vessels, the vitality of the part cannot be restored.

As soon as the natural temperature shall have been established, apply cotton batting, previously saturated with carbolized oil (No. 7). The cotton should be laid on very loosely and then covered with a light flannel cloth.

If snow be inaccessible, ice should be put into water until it stands at a temperature of 32° F., and the parts sponged or rubbed gently with this water until the temperature shall have been restored, as in the preceding instance.

In cases where the frost-bite is older, and the parts have already turned black, or begun to mortify, it is useless to attempt to restore the vitality, and the carbolized oil in which has been placed the laudanum (No. 8) should be applied. This mixture serves the triple purpose of relieving pain, of protecting the part from the influence of external air, and of disinfecting the parts where decomposition has commenced.

The method of friction needs no special comment; as before stated, it must be made with the greatest gentleness and perseverance. The frost-bitten parts should never be brought near the fire, placed in warm water, or exposed to any external heat, until after the temperature shall have been fully restored. Of course, in cases where the prostration is from other causes, as in the resuscitation of persons apparently drowned, the frost-bite being the lesser evil of the two, it will not do to allow the patient to perish from the cold to prevent the loss of a comparatively unimportant member of the body.

NOSE-BLEED.

Bleeding at the nose very frequently occurs, not only as the result of an injury, but as the result of a debilitated condition of the system following malarial and other fevers.

Treatment.—When the bleeding is severe it will perhaps be found more practicable to treat it by blowing into the nostrils with a quill some of the “styptic powder” (No. 2). In case this fails after three or four attempts, the nose should be plugged with lint, and the patient should be directed to keep his head perfectly still and quiet, and allow the clot to remain in the nose for several days, or at least as long as practicable.

MALARIAL FEVERS IN GENERAL.

When a vessel is sailing off the western coast of Africa, off the eastern coast of Brazil, in the Caribbean Sea, off the West Indies, off the shores of the Gulf of Mexico, or about the capes and shores of the Chesapeake (in the northern hemisphere during the months of April to November, and in the southern hemisphere from November to April), malarial fevers are very liable to attack the crew.

It is not known how far malaria extends out at sea, but very much depends on the force and velocity of the land breezes.

Much may be done to prevent the occurrence of these malarial fevers by insuring proper cleanliness among the men, seeing that

they are warm enough at night, that they do not sleep in the open air, and that the decks of the ship are, as far as possible, dry and clean. Frequent wet-scrubbing of the deck should always be avoided in hot climates. During the months named and in the places mentioned the captain will find it to his advantage to issue an extra quantity of lime juice each day, and give a small dose, say a teaspoonful, of mixture No. 9 to the entire crew each morning, without regard to whether they are sick or well. It never does an injury under such circumstances, and may frequently be of the greatest service in preventing sickness. Should these precautions fail to ward off disease, and a man turn out in the morning complaining of headache, pain in the back, and dizziness, and have a white-coated tongue, hot skin, and a rapid, full pulse, with loss of appetite, the captain may know that a malarial fever of some kind is threatening. If it has begun with a chill it may be simple ague, or it may be bilious fever, or yellow fever.

Treatment.—In such circumstances the captain should begin at once energetically treating his patient. If the bowels are constipated, a physic should be given—preferably a dose of infusion of senna.* If, however, there is diarrhæa, the fever will usually be found not to be of a malarial type, but is more likely to be typhus or typhoid.

If the edges of the tongue be very red and the tongue is thin instead of thick, there will be more reason to fear the latter, as malarial fevers are usually accompanied by thick or broad tongues. After having given senna tea and waiting three or four hours for an operation, if the bowels do not move, the tea may be repeated. If the patient is sick at his stomach and vomits, a mustard plaster may be placed directly over the centre of the belly, above the navel. It will be better to make a large plaster, say five by six inches. After the physic has operated, if the skin is very hot, it will be found advantageous to give a Dover's powder every two or three hours until three or four are taken, or the patient sleeps. The patient should not be wakened from sleep to give these powders, because they contain opium; but they should be given often enough to quiet the pain, produce sweating, and thus reduce the fever. If the patient is thirsty, it will be useful to give a teaspoonful of the nitre mixture every two hours during the fever. The nitre mixture is prepared as follows: take 20 grains, or about half a teaspoonful of powdered saltpetre, mix it in half a tumbler of water,

* The infusion may be made by placing a tablespoonful of the extract in a half pint of hot water; when cool enough it may be drank at a single dose.

and put into this a tablespoonful of sweet spirits of nitre; stir well together and give it in teaspoonful doses as directed. This medicine has the effect of increasing the amount of urine and perspiration.

After the fever has abated, sweating established, and the skin becomes cool, it will be proper to administer a dose of quinine, say 15 or 20 grains. This should not be repeated more than twice in twenty-four hours, and not more than 40 or 50 grains should be given in forty-eight hours.

During the presence of the chill, the patient can be made more comfortable by being placed between blankets with bottles of hot water to his feet, or bricks or stones heated and wrapped in cloth will answer the same purpose. If the patient's lips are white and he is unconscious, it will be of advantage to put mustard plasters on his legs and administer quinine in whisky at once. This may be given by taking half a tablespoonful of whisky and stirring into it 10 or 15 grains (half a teaspoonful) of quinine and administering at a single dose. This may be repeated in three hours. In the so-called "congestive chills" this active treatment is especially necessary.

When, however, the patient's tongue is red and dry, with a smooth glazed appearance, and there is more or less tendency to sleep and stupor, which is the first stage of the so-called "typhoid" condition, quinine will be of little advantage. In this condition frequent bathing of the legs with mustard water, and administering the nitre mixture, together with a Dover's powder, once in six hours, with plenty of beef tea or condensed milk, will be about all that can be done.

Where there is tenderness over the stomach it is found very advantageous to give with each Dover's powder a single grain, or perhaps two grains of camphor. As this fever is likely to be of long duration, the strength of the patient must be supported by all possible means, and stimulants should be reserved for a later period in the disease, when they may be used to good advantage. After the patient has been sick eight or ten days, milk-punch may be given regularly three or four times a day, alternating with beef tea.

DYSENTERY.

The characteristic sign of dysentery is great pain in the bowels, with frequent movements, and generally accompanied with bloody discharges.

These discharges at first have a greenish, slimy character, after-

wards becoming yellowish, and streaked with blood ; later, shreds like bits of torn, thin linen are passed, and finally there is but a teaspoonful or tablespoonful passed at a movement, which is accompanied with severe bearing-down pain.

Probably the best treatment to be adopted for cases of dysentery at the beginning is to give a large dose of castor-oil, say two tablespoonfuls, into which 15 or 20 drops of laudanum are placed. Castor-oil in tablespoonful doses with laudanum may be continued once in four hours for several days. If the pain becomes more severe and the griping more frequent, an opium and camphor pill may be given every two hours until the pain ceases or the patient sleeps. Laudanum should not be given in the castor-oil when the pills are taken. Sometimes the patient will experience great relief from an injection of lime-water, or simply tepid water, just previous to an operation. Starch injections, to which 20 or 25 drops of laudanum have been added, are frequently given.

Perfect rest and quiet should be insisted upon, and the diet of the patient should be of the lightest character. Salt meat or fish should not be allowed. The principal diet should be arrowroot, cornmeal gruel, or condensed milk, or beef tea may be given. This can be easily made by mixing a little meat juice with cold water. The patient should be kept in bed, and his abdomen covered with flannel.

It should be remembered that dampness or sudden changes of climate, from warm to cold, are very apt to produce dysentery, and for this reason, where the climate is changeable, the crew should wear extra underclothing.

YELLOW FEVER.

When the vessel is near the West Indies, off the Mexican shore, in the Gulf, or off the Brazilian coast, precautionary measures should always be adopted against yellow fever. This is to be done by observing the strictest cleanliness. The cabin, the steerage, the cook's galley, the forecastle, the hold, and all parts of the ship, everything in and about it, should be made as dry as possible and kept clean. It should be remembered that fumigation never takes the place of cleansing, and, more than that, the cleansing should be dry cleansing as far as possible.

Treatment.—When cleansing has been fully carried out it will be well to give the men each morning a dose of No. 9, not only

for the prevention of yellow fever, but also for the prevention of malarial fevers in general. The men should bathe frequently, and should observe the precautions detailed in speaking of malarial fevers. If, however, yellow fever breaks out on board the vessel, the infected person should not be allowed to lie sick in his quarters. A hammock should be swung where the air may have free access to it. By this means infection of the ship may be measurably prevented.

In order to prevent injury to the patient from exposure to the wind, it will be well to cover the hammock with an awning. At the onset of the disease the patient will usually be constipated and the skin dry, without moisture, and great pain in the back and legs; later on in the disease vomiting, pains in the stomach, and intense yellowness in the skin and eyes may supervene.

Treatment.—It will be proper in such cases to commence with a brisk physic of senna tea, and if the skin be very dry rub the legs with mustard water; if vomiting be present, the nitre mixture should be given as directed for malarial fevers. If the fever is not high fifteen grains of quinine may be given twice in the forenoon. From the beginning to the end of the disease three cardinal points must be observed: First, to insure rest to the patient by giving a Dover's powder, and inducing him to remain in bed; secondly, to insure free action of the skin by warm baths and sweating medicines; and, thirdly, to support the strength of the patient by means of weak whisky and water, beef tea, quinine, and other stimulants. No solid food should be given the patient until after convalescence.

SUNSTROKE.

Treatment.—Remove patient to coolest part of ship; apply cold water to head and hot bottles or bricks to the feet; give him a dose of Epsom salts, and keep him quiet. He should be fed on solution of condensed milk (if obtainable) and beef tea, and, if very weak, a little whisky and water three times daily.

SCURVY.

Although this disease is seldom met with among American sailors, it occasionally appears.

Treatment.—In addition to doubling the allowance of lime-juice, give any kind of vegetables that can be obtained, with a liberal allowance of pickles or vinegar.

COLIC.

This may occur from eating indigestible articles, drinking too much water while overheated, or without obvious cause; or it may be the result of lead poisoning after using white or red lead in painting ship.

Treatment.—If from over-eating, an emetic followed by a little spirits containing 10 drops fluid extract ginger or 10 drops of laudanum, and a mustard plaster over the stomach, will give relief. If several of the crew are affected at the same time, particularly if they have been working among paints, you may suspect lead poisoning, in which case give two tablespoonfuls of castor oil with 10 drops of laudanum, remove them from proximity to the fresh paint, see that their clothing is clean and free from it, and after their bowels are well open from the oil (which may be repeated if found necessary), give an occasional dose of ginger and whisky. It may be necessary to apply hot cloths to abdomen and give a Dover's powder every three or four hours if the pain continues severe.

SORE THROAT—"QUINSY."

Treatment.—Gargle frequently with chlorate of potash in warm water; keep the bowels well open, and if the pain is severe give a Dover's powder at bedtime.

ERYSIPELAS.

This disease is characterized by itching and redness of the parts affected, with or without swelling, and a shining skin. This redness is more or less diffused, disappears under the finger, and reappears immediately upon the finger being removed. The disease has a tendency to spread over the surface of the body.

Treatment.—The proper remedies are tincture of iron and quinine (No. 14) in teaspoonful doses every two or three hours; painting the parts with tincture of iodine or tincture of iron once or twice in twenty-four hours, making a broad line with the iodine on the sound skin and covering the diseased skin. Tonics and beef tea should be given freely.

Erysipelas following a wound should be treated with the same internal remedies and the same local applications to the skin, but carbolized water dressings should be applied to the wound.

RHEUMATISM.

Rheumatism usually commences with pain; it may be in the joints, or it may be complained of in the muscles between the joints.

Treatment.—If a patient has had syphilis previously, the pain will nearly always be increased at night. If, however, no history of syphilis can be found, and the pain is located in a joint, which is considerably swollen, the case will doubtless prove to be one of acute rheumatism. In this event it will be best treated by wrapping the joint in flannel wrung out of hot water through the day, and occasionally bathing it with chloroform liniment through the night; afterwards by covering with dry, warm flannels and administering internally pills (No. 12), which should be given every two hours until sweating is produced freely and the pain has ceased. But if it is found that the pain is more severe at night, and the patient acknowledges to having had syphilis previously, it will be better to administer the iodide of potassium mixture (No. 11) in teaspoonful doses three times a day in the same manner as for constitutional syphilis.

Acute rheumatism may last for an indefinite period, but, if treated in the manner indicated, will usually run its course in about two weeks. Syphilitic rheumatism, on the contrary, will be of longer duration.

CHOLERA MORBUS

Is usually the result of eating unripe or decaying fruit, and is characterized by great pain in the stomach and bowels, cramps, watery diarrhoea, and vomiting.

Treatment.—Mustard to the abdomen, one opium and camphor pill every two hours until relieved or the patient sleeps; and when free from cramps, a dose of castor-oil with ten drops of laudanum should be given.

DIARRHOEA.

By simple diarrhoea is meant a looseness of the bowels where the discharges are thin in consistency and large in amount. They may be either whitish, watery, or greenish in color.

Treatment.—In order to properly treat a case of diarrhoea, the cause must be carefully investigated. If it has been produced by imprudence in eating, by bad water or tainted meat, or bad food of any kind, a few days of rest in bed, a little dry toast, a

little brandy or whisky and water twice a day, will be all that is necessary. But if it can be traced to none of these things, the treatment must be directed to the digestive organs. If in a hot country, or especially in the Indian Ocean, where cholera is likely to prevail, diarrhœa may be checked more rapidly without danger. But in a northern latitude greater care should be taken in checking the disease by astringents. It should rather be done by the patient's abstaining from meat, from water as much as practicable, from potatoes and all kinds of fruit, with the exception of lemons and oranges. One opium and camphor pill (No. 15) may be given after each operation of the bowels, provided the operations are not more frequent than once in two hours.

CHOLERA.

Should the vessel be lying off the Indian coast near the mouth of the Ganges, or in the vicinity of any other country where cholera is likely to prevail, all cases of diarrhœa should be looked upon with suspicion and treated for incipient cholera.

Treatment.—In such cases it will be better to confine the patient to bed, and if the discharges are large and watery, opium and camphor pills may be given, one every two hours; or, if there is much pain, a dose of the cholera mixture (No. 10) may be given every half hour until the pain ceases. If the patient has collapsed; that is, if the face, fingers, nose, ears, and feet are cold, stimulants must be given, the legs wrapped in cloths and rubbed with dry mustard, bottles of hot water or bricks applied to the feet, and great care taken to insure circulation of the blood in the extremities, and to keep up the strength of the patient. Neither the opium pills nor the cholera mixture should be given when the patient is asleep, and when asleep he should be allowed to remain so. His diet should be confined to milk, gruel, buttered toast, and sparingly of beef tea.

In this connection it may be very properly said that no passengers should be allowed to come on board the vessel in an infected district until their baggage has been examined by the physician to the United States consul and a permit for the shipment of the baggage countersigned by that officer.

ITCH.

Treatment.—Make the man wash thoroughly with soap and water, and after drying, apply sulphur ointment liberally to the

parts affected, or to the whole body if necessary. This should be repeated often enough to keep the parts thoroughly anointed and continued morning and night until the itching has disappeared.

BOILS.

What are known among sailors as saltwater boils are quite common and very painful.

Treatment.—They may sometimes be destroyed by caustic or a blister, if applied early. Later, poultice until soft and then open with a lancet.

PILES.

Treatment.—Keep the bowels open with pills or salts, make cooling application to the parts, and if the piles protrude, push them back gently and keep them in by means of a cloth and bandage applied to the vent.

SYPHILIS.

It is presumed that before going to sea the crew will have been examined by a medical officer of the Marine Hospital Service, in which event this disease will rarely be seen on the outward voyage.

Syphilis is usually noticed in the shape of a little pimple which will appear on the foreskin, head of the "yard," or in some instances underneath the foreskin. This will gradually become an open sore and discharge a considerable amount of pus, and is usually somewhat painful. Should the pimple be what is known as the "hard" variety, there will be little pus and but little if any pain. Careful questioning of the man will show, in the case of a soft sore which discharges freely, that he has but recently been exposed to the infection, whereas in a hard sore he may have been exposed to the infection several days previously, or in some instances even weeks before it makes its appearance.

Treatment.—The treatment of the two varieties in the first stages is essentially different. In the soft variety of sore, it will be necessary to burn it thoroughly with caustic, using for the purpose the acid nitrate of mercury, while in the hard variety no burning will be necessary. The soft sore, after having been once thoroughly burned, will scarcely require its repetition, though the application of iodoform is found to be beneficial. The dry sore may then be bathed with a black wash or sprinkled with calomel.

The hard sore will require nothing except the application of a little simple cerate or cosmoline, which is spread on a cloth and applied directly to the sore.

In either variety of these sores it will be necessary to keep the sore and the "yard" thoroughly clean, using for this purpose a little castile soap and water. It will be a safe plan, to prevent constitutional infection of the patient, to give the iodide of potassium mixture, No. 11, in teaspoonful doses three times a day until the arrival of the vessel in port, when he should be taken to the marine hospital office, a full history of the case given to the surgeon, and advice as to further treatment obtained.

CLAP.

When the crew has been examined previous to the sailing of the vessel, this disease is not likely to be found on the *outward* voyage (though it may appear when several days out), but it is quite likely to be contracted in foreign ports where prostitutes are unregistered.

Treatment.—If treated in the beginning it may be easily managed by very mild injections of warm water with three grains of sulphate of zinc to an ounce of water. These injections should be made morning, noon, and night, and at least half an ounce should be injected at each operation. In the event of the sulphate of zinc by any means being absent, ordinary sea-water will make a very good injection if mixed with about one-half fresh water.

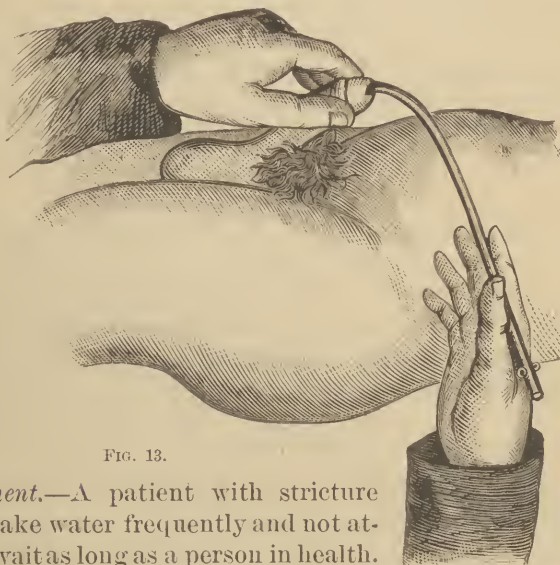
As the disease progresses and degenerates into gleet, injections must be made stronger, using a solution of 10 grains of the sulphate of zinc to the ounce of water. If there is any curving downwards of the yard (chordee), an infusion of opium may be injected, and the yard should be wrapped loosely with a cloth wet with cold water. The infusion may be made by placing a couple of tea-spoonfuls of powdered opium in an earthen vessel, and pouring on one-half gill of tepid water, allow it to simmer over a fire or spirit-lamp for a half an hour, then add another half gill of cold water, and the infusion is ready.

Swelled testicles are best treated by keeping the patient quiet in bed. If very painful, a warm poultice generally gives relief, or the testicle may be strapped with adhesive plaster, cut in narrow strips and made to overlap each other until the entire testicle is covered. Beside the local treatment, a dose of epsom salts should be given each morning, unless the bowels are already too loose. A suspensory bandage will always be useful in such cases as soon as the patient commences to walk about.

S T R I C T U R E O F T H E U R E T H R A .

Very many cases of clap are followed by a stricture, and indeed most all cases of stricture may be traced to clap which has occurred at some period previously.

The stricture may be discovered by stoppage or difficulty in passing water, and the water coming out in a very fine stream, the stream being forked, or by the length of time required to pass it, and great labor of the patient in its performance. No more distressing sight can be seen than that of a patient in the vain endeavor to force water from a full bladder through a close and tight stricture. Care should be taken by the captain in cases of stricture to see that the patient's bladder is emptied, without allowing it to become entirely filled up.



F I G . 13 .

Treatment.—A patient with stricture should make water frequently and not attempt to wait as long as a person in health. Should, however, a stoppage occur, a catheter should be passed and the urine removed twice a day. In passing the catheter the patient should be placed on his back with the knees drawn up while the operator seizes the yard with his left hand, while with the other, holding the catheter like a pen, it is gently introduced. The operator should exercise in this operation the utmost patience, and never be in a hurry to force the catheter into the bladder, nor should it be done by an unprofessional person when it is practicable to avoid it. The method of its introduction is shown in the

cuts. [Figs. 13 and 14.] It is better to begin with a large instrument and push it down until it meets with obstruction, where it

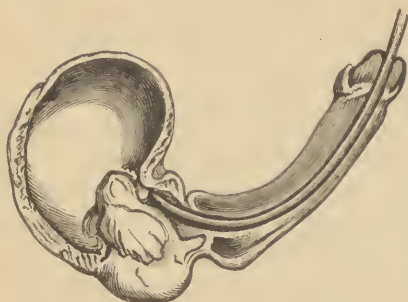


FIG. 11.

should be allowed to remain for a few moments; then if it will not pass further without pain, introduce a smaller one and pass it as far as it will go, allowing it to remain for a few moments gently pressed against the stricture, where it may be retained for a few moments and then passed into the bladder. If it is

found that the catheter cannot be made to pass by gentle efforts, warm flannel cloths may be wrung out of hot water and placed over the lower part of the belly and the space back of the purse of the patient and changed as often as every 20 or 30 minutes. In a short time the parts are likely to be so relaxed that the catheter can be pushed into the bladder without difficulty.

DELIRIUM TREMENS.

Treatment.—Beef-tea every two hours or milk every three hours, given in generous quantity, and until the patient falls asleep, when he should not be disturbed. Upon awaking, additional beef-tea or milk should be given three or four times a day. The practice formerly recommended of giving strong stimulants and opiates is believed to be unnecessary and harmful.

SMALL-POX.

This disease is recognized by its eruption, which at first feels like small shot beneath the surface of the skin, and appears after the patient has had fever for six or seven days; with the fever there is severe pain in the small of the back.

Treatment.—But little medical treatment is required. In the commencement, it should be treated as any other fever. The bowels should be kept open, the patient removed to a cool place, and isolated.

All persons aboard ship should be vaccinated, and all clothing, bedding, &c., used by the patient destroyed.

The intolerable itching may be relieved by anointing the body with vaseline, cosmoline, or petrolina, in which powdered char-

coal has been stirred. It is said that the charcoal dressing applied freely over the sores, by preventing the access of light, diminishes the "pits" or scars left by the disease. Moreover, the charcoal has a tendency to destroy the peculiar odor which is always present in the later stages of the disease.

RESUSCITATION.

When a man has fallen overboard and is apparently drowned, all means possible should be taken to restore him to life. The following are the directions of the United States Life Saving Service, which have been found to be useful in such cases :

RULE I. *Arouse the patient.*—Unless in danger of freezing, do not move the patient, but instantly expose the face to a current of fresh air, wipe dry the mouth and nostrils, rip the clothing, so as to expose the chest and waist, and give two or three quick smarting slaps on the stomach and chest with the open hand. If the patient does not revive, then proceed thus :

RULE II. *To draw off water, &c., from the stomach and chest.*—If the jaws are clinched, separate them, and keep the mouth open by placing between the teeth a cork or small bit of wood ; turn the patient on the face, a large bundle of tightly-rolled clothing being placed beneath the stomach, and press heavily over it for half a minute, or so long as fluids flow freely from the mouth.

RULE III. *To produce breathing.*—Clear the mouth and throat of mucus, by introducing into the throat the corner of a handkerchief wrapped closely around the forefinger ; turn the patient on the back, the roll of clothing being so placed beneath it as to raise the pit of the stomach above the level of any other part of the body. If there be another person present, let him, with a piece of dry cloth, hold the tip of the tongue out of one corner of the mouth (this prevents the tongue from falling back and choking the entrance to the windpipe), and with the other hand grasp both wrists and keep the arms forcibly stretched back above the head, thereby increasing the prominence of the ribs, which tends to enlarge the chest. The two last-named positions are not, however, essential to success. Kneel beside or astride the patient's hips, and with the balls of the thumbs resting on either side of the pit of the stomach, let the fingers fall into the grooves between the short ribs, so as to afford the best grasp of the waist. Now, using your knees as a pivot, throw all your weight forward on your hands, and at the same time squeeze the waist between them, as if you wished to force everything in the chest upward of not the mouth ; deepen the pressure while you can count slowly one, two, three ; then suddenly let go with a final push, which springs you back to your first kneeling position. Remain erect on your knees while you can count one, two, three ; then repeat the same motions as before at a rate gradually increased from four or five to fifteen times in a minute, and continue thus this bellows movement with the same regularity that is observable in the natural motions of breathing which you are imitating. If natural breathing be not restored, after a trial of the bellows movement for the space of three or four minutes, then, without interrupting the artificial respiration, turn the patient a second time on the stomach, as directed in Rule II, rolling the body in the opposite direction from that in which it was first turned, for the purpose of freeing the air-passages from any remaining water. Continue the artificial respiration

from one to four hours, or until the patient breathes ; and for a while, after the appearance of returning life, carefully aid the first short gasps until deepened into full breaths. Continuing the drying and rubbing, which should have been unceasingly practised from the beginning, taking care not to interfere with the means employed to produce breathing. Thus the limbs of the patient should be rubbed, always in an upward direction toward the body, with firm-grasping pressure and energy, using the bare hands, dry flannels, or handkerchiefs, and continuing the friction under the blankets or over the dry clothing. The warmth of the body can also be promoted by the application of hot flannels to the stomach and arm-pits, bottles or bladders of hot water, heated bricks, &c., to the limbs and soles of the feet.

RULE IV. AFTER-TREATMENT.—*Externally* : As soon as breathing is established, let the patient be stripped of all wet clothing, wrapped in blankets only, put to bed comfortably warm, but with a free circulation of fresh air, and left to perfect rest. *Internally* : Give a little brandy and hot water, or other stimulant at hand, every ten or fifteen minutes for the first hour, and as often thereafter as may seem expedient. *Later manifestations* : After reaction is fully established, there is great danger of congestion of the lungs, and if perfect rest is not maintained for at least forty-eight hours, it sometimes occurs that the patient is seized with great difficulty of breathing, and death is liable to follow unless immediate relief is afforded. In such cases apply a large mustard-plaster over the breast. If the patient gasps for breath before the mustard takes effect, assist the breathing by carefully repeating the artificial respiration.

NOTE.—An eminent authority, Dr. Labordette, the supervising surgeon of the Hospital of Lisieux, in France, appears to have established that the clenching of the jaws and the semi-contraction of the fingers, which have hitherto been considered signs of death, are, in fact, evidences of remaining vitality. After numerous experiments with apparently-drowned persons, and also with animals, he concludes that these are only signs accompanying the first stage of suffocation by drowning, the jaws and hands becoming relaxed when death ensues.* This being so, the mere clenching of the jaws and semi-contraction of the hands must not be considered as reasons for the discontinuance of efforts to save life, but should serve as a stimulant to vigorous and prolonged efforts to quicken vitality. Persons engaged in the task of resuscitation are, therefore, earnestly desired to take hope and encouragement for the life of the sufferer from the signs above referred to, and to continue their endeavors accordingly. In a number of cases Dr. Labordette restored to life persons whose jaws were so firmly clenched that, to aid respiration, their teeth had to be forced apart with iron instruments.

ADDITIONAL NOTE.—The “*heat method*,” which has recently been strongly advocated, does not materially differ from the concluding sentence of Rule III, and lays especial stress upon *heat*, by whatever means employed, as the real factor in resuscitation of the apparently drowned ; but the proper method would appear to be : I. Raise the feet above the head, for *two or three seconds*, to allow any water in the air passages to escape by its own gravity. II. Apply heat and artificial respiration, according to the above directions, *simultaneously*.

* The muscular rigidity of death (*rigor mortis*) occurs later, after the temporary relaxation here referred to.

G E N E R A L I N S T R U C T I O N S .

On arriving at any port in the United States, if the master of the vessel has on board a man who is sick and is unable to walk, and this seaman has paid hospital dues, the hospital signal should be displayed on entering the harbor.

The hospital signal will be the seal of the Service in white (shown on the cover of this book) on a blue ground with a scarlet border around it.

The boarding officer of the customs service should also be informed of the character of the patient's illness. Marine-hospital surgeons will be found at the following seaports: Portland, Me.; Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; Baltimore, Md.; Norfolk, Va.; Washington, D. C.; Wilmington, N. C.; Charleston, S. C.; Savannah, Ga.; Key West, Fla.; Mobile, Ala.; New Orleans, La.; Galveston, Tex.; San Francisco, Cal.; Portland, Oreg.; and Port Townsend, Washington Territory.

Physicians are employed to treat marine-hospital patients at Eastport, Calais, Rockland, Machias, Bangor, Ellsworth, Castine, and Bath, Me.; Portsmouth, N. H. From Salem and Lynn, Mass., patients are sent to Chelsea. At Vineyard Haven, Mass., there is a marine hospital. At Hyannis, a local physician; also at New Haven, Conn.; New Bedford, Mass.; Tuckerton, N. J.; New Berne, N. C.; Georgetown, S. C.; Brunswick, Ga.; Jacksonville and Fernandina, Fla.

On the Lakes there are marine hospitals at Cleveland, Ohio; Detroit, Mich.; and Chicago, Ill. There are medical officers of the service at Chicago, Detroit, and Buffalo.

There are local physicians employed to attend seamen at Oswego, N. Y., Cleveland and Toledo, Ohio, Grand Haven and Marquette, Mich., and Milwaukee, Wis. On the Ohio River, medical officers of the Service at Pittsburgh, Pa., Cincinnati, Ohio, Louisville, Ky., Evansville, Ind., and Cairo, Ill. On the Mississippi River, medical officers of the Service at Saint Louis, Mo., Cairo, Ill., Memphis, Tenn., and New Orleans, La. Local physicians under contract at Saint Paul, Minn., La Crosse, Wis., Dubuque, Iowa, and Vicksburg, Miss. On Red River, local physician at Shreveport, La. On the Tennessee River, at Chattanooga and at Nashville. On the Missouri River, local physician, Bismarck. At all ports of entry where there is no medical officer on duty, or physician regularly employed, necessary arrangements are made by the collectors of customs.

APPENDIX.

THE UNITED STATES MARINE-HOSPITAL SERVICE.

ITS CHARACTER AND OBJECTS.

I.—The Marine-Hospital Service is the medical department for the mercantile marine of the United States. It was established in 1798, and is charged with the duty of preserving the health interests of the officers and seamen employed on American vessels engaged in the foreign, coastwise, and inland commerce.

II.—The Marine-Hospital Service is by law placed under the immediate direction of a supervising Surgeon-General, who is appointed by the President by and with the advice and consent of the Senate of the United States. Said Surgeon-General is responsible for his official acts to the Secretary of the Treasury, and is required by law, under the direction of the Secretary, to “supervise all matters connected with the Marine-Hospital Service.”

III.—The expenses of the Marine-Hospital Service are defrayed out of the marine-hospital fund, which consists of hospital dues assessed and collected in accordance with law out of the wages of the seamen, at the rate of forty cents per month while actually employed. The hospitals belonging to the Service have, however, been erected at the expense of the United States, and the repairs and preservation of buildings, are provided for in common with those of other public buildings under the charge of the Secretary of the Treasury.

LAWS RELATING TO THE UNITED STATES MARINE-HOSPITAL SERVICE.

[Extracts from Revised Statutes of the United States.]

SEC. 3689. There are appropriated, out of any moneys in the Treasury not otherwise appropriated, for the purposes hereinafter specified, such sums as may be necessary for the same respectively; and such appropriations shall be deemed permanent annual appropriations; * * * of the moneys collected from masters or owners of vessels of the United States, at the rate of forty cents per month for every seaman employed, to constitute a general fund, to be used for the benefit and convenience of sick and disabled American seamen. * * * Of the proceeds of leases and sales of marine-hospital buildings, and lands appertaining thereto, for the marine-hospital establishment.

SEC. 3692. All moneys received from the leasing or sale of marine hospitals * * * shall * * * revert to that appropriation out of which they were originally expended, and shall be applied to the purposes for which they are appropriated by law.

SEC. 4545. When no claim to the wages or effects of a deceased seaman or apprentice, received by a circuit court, is substantiated within six years after the receipt thereof by the court, it shall be in the absolute discretion of the court, if any subsequent claim is made, either to allow or refuse the same. Such courts shall, from time to time, pay any moneys arising from the unclaimed wages and effects of deceased seamen, which, in their opinion, it is not necessary to retain for the purpose of satisfying claims, into the Treasury of the United States, and such moneys shall form a fund for, and be appropriated to, the relief of sick and disabled and destitute seamen belonging to the United States merchant-marine service.

SEC. 4569. Every vessel belonging to a citizen of the United States, bound from a port in the United States to any foreign port, or being of the burden of seventy-five tons or upward, and bound from a port on the Atlantic to a port on the Pacific, or *vice versa*, shall be provided with a chest of medicines; and every sailing-vessel bound on a voyage across the Atlantic or Pacific ocean, or around Cape Horn or the Cape of Good Hope, or engaged in the whale or other fisheries, or in sealing, shall also be provided with, and cause to be kept, a sufficient quantity of lime or lemon-juice, and also sugar and vinegar, or other anti-scorbutics, to be served out to every seaman, as follows: The master of every such vessel shall serve the lime or lemon-juice, and sugar and vinegar, to the crew within ten days after salt provisions mainly have been served out to the crew, and so long afterward as such consumption of salt provisions continues; the lime or lemon-juice and sugar daily, at the rate of half an ounce each per day, and the vinegar weekly, at the rate of half a pint per week for each member of the crew.

SEC. 4585. There shall be assessed and collected by the collectors of customs at the ports of the United States, from the master or owner of every vessel of the United States arriving from a foreign port, or of every registered vessel employed in the coasting trade, and before such vessel shall be admitted to entry, the sum of forty cents per month for each and every seaman who shall have been employed on such vessel since she was last entered at any port of the United States; such sum such master or owner may collect and retain from the wages of such seamen.

SEC. 4586. Whenever a sale or transfer of any vessel of the United States is made in a foreign port or water, the consular officer of the United States, within whose consulate or district the same is made, or in whose hands the papers of such vessels are, is required to collect of the master or agent of such vessel all moneys that shall have become due to the United States by virtue of the preceding section, and shall remain unpaid at the time of such sale or transfer; and such consular officer shall retain possession of the papers of such vessel until such money shall have been paid as herein provided; and, in default of such payment, the sale or transfer shall be void, excepting as against the vender.

SEC. 4587. No collector shall grant to any vessel, except canal-boats employed in navigating the canals within the United States whose enrolment or license for carrying on the coasting trade has expired, a new enrolment or license, unless the master of such vessel shall have first rendered a true account to the collector of the number of seamen and the time they have been employed on such vessel during the continuance of the license which has so expired, and shall have paid to such collector forty cents per month for every such seaman who shall have been employed; which sum the master is hereby

authorized to retain out of the wages of such seamen. Whenever the master of any registered, enrolled, or licensed vessel of the United States renders a false account of the number of seamen so employed, or of the length of time they have severally been employed, as is herein required, he shall be liable to a penalty of fifty dollars, which shall be applied to, and shall make a part of, the general fund created for the relief of sick and disabled seamen; and all needful regulations for the mode of collecting the sums hereinbefore mentioned shall be prepared, under the direction of the Secretary of the Treasury, by such person as by him may be designated.

SEC. 4792. The quarantines and other restraints established by the health-laws of any State respecting any vessels arriving in or bound to any port or district thereof, shall be duly observed by the officers of the customs revenue of the United States; * * * and all such officers of the United States shall faithfully aid in the execution of such quarantines and health-laws, according to their respective powers and within their respective precincts, and as they shall be directed from time to time by the Secretary of the Treasury.

SEC. 4801. The President is authorized to receive donations of real or personal property, in the name of the United States, for the erection or support of hospitals for sick and disabled seamen.

SEC. 4803. The several collectors of the customs shall respectively deposit, without abatement or reduction, the sums collected by them, under the provisions of law imposing a tax upon seamen for hospital purposes, with the nearest depository of public moneys, and shall make returns of the same, with proper vouchers, monthly, to the Secretary of the Treasury, upon forms to be furnished by him. All such moneys shall be placed to the credit of "the fund for the relief of sick and disabled seamen"; of which fund separate accounts shall be kept in the Treasury. Such fund is appropriated for the expenses of the Marine-Hospital Service, and shall be employed, under the direction of the Secretary of the Treasury, for the care and relief of sick and disabled seamen employed in registered, enrolled, and licensed vessels of the United States.

SEC. 4804. No person employed in or connected with the navigation, management, or use of canal-boats engaged in the coasting trade shall by reason thereof be entitled to any benefit or relief from the marine-hospital fund.

SEC. 4805. Sick foreign seamen may be admitted to the marine hospitals within the United States, if it can with convenience be done, on the application of the master of any foreign vessel to which any such seamen may belong. Each seaman so admitted shall be subject to a charge of seventy-five cents per day for each day he may remain in the hospital, which shall be paid by the master of such foreign vessel to the collector of the collection-district in which such hospital is situated. And the collector shall not grant a clearance to any foreign vessel until the money so due from her master shall be paid. The officer in charge of each hospital is hereby directed, under penalty of fifty dollars, to make out the accounts against each foreign seaman that may be placed in the hospital under his direction, and render the same to the collector.

SEC. 2. That from and after May first, eighteen hundred and seventy-five, every vessel subject to hospital-tax, except vessels required by law to carry crew-lists, shall have and keep on board, subject to inspection and verification at all times by any officer of the customs, a seaman's time-book, which shall be furnished by the Treasury Department; and in which time-book shall be entered the name, date of shipment, and date of discharge of every seaman

employed on board such vessel; and the master or owner of any vessel subject to hospital-tax, vessels carrying crew-lists as above excepted, shall forfeit and pay the sum of fifty dollars for each and every seaman found employed on board his vessel without a corresponding entry in said time-book; and the sums so forfeited shall be collected by the collector of customs upon the sworn statement of the customs-officers who make the inspections, and shall be paid into the Treasury to the credit of the marine-hospital fund, for the general purposes of which fund said sums are hereby appropriated.

SEC. 3. That term "seaman," wherever employed in legislation relating to the Marine-Hospital Service, shall be held to include any person employed on board in the care, preservation, or navigation of any vessel, or in the service, on board, of those engaged in such care, preservation, or navigation.

SEC. 5. That insane patients of said Service shall be admitted into the government hospital for the insane upon the order of the Secretary of the Treasury, and shall be cared for therein until cured or until removed by the same authority; and the charge for each such patient shall not exceed four dollars and fifty cents a week, which charge shall be paid out of the marine-hospital fund.

SEC. 6. That sick and disabled seamen of foreign vessels and of vessels not subject to hospital-dues may be cared for by the Marine-Hospital Service at such rates and under such regulations as the Secretary of the Treasury may prescribe.

RATIONS.

[Part of section 4612 Revised Statutes.]

Scale of provisions to be allowed and served out to the crew during the voyage.

	Bread.	Beef.	Pork.	Flour.	Pease.	Rice.	Barley.	Tea.	Coffee.	Sugar.	Water.
	Lbs.	Lbs.	Lbs.	Lbs.	Pts.	Pts.	Pts.	Ozs.	Ozs.	Ozs.	Qts.
Sunday	1	1½	1½	½	½	.....	.....	.....	.....	.....	3
Monday	1	1½	1½	½	½	.....	.....	.....	.....	.....	3
Tuesday	1	1½	1½	½	½	.....	.....	.....	.....	.....	3
Wednesday	1	1½	1½	½	½	.....	.....	.....	.....	.....	3
Thursday	1	1½	1½	½	½	.....	.....	.....	.....	.....	3
Friday	1	1½	1½	½	½	.....	.....	.....	.....	.....	3
Saturday	1	1½	.....	.....	.....	.....	.....	.....	.....	.....	3

SUBSTITUTES.

One ounce of coffee, or cocoa, or chocolate may be substituted for one-quarter ounce of tea; molasses for sugar, the quantity to be one-half more; one pound of potatoes or yams, one-half pound flour or rice; one-third pint of pease or one-quarter pint of barley may be substituted for each other. When fresh meat is issued, the proportion to be two pounds per man per day in lieu of salt meat. Flour, rice and pease, beef and pork may be substituted for each other, and, for potatoes, onions may be substituted.

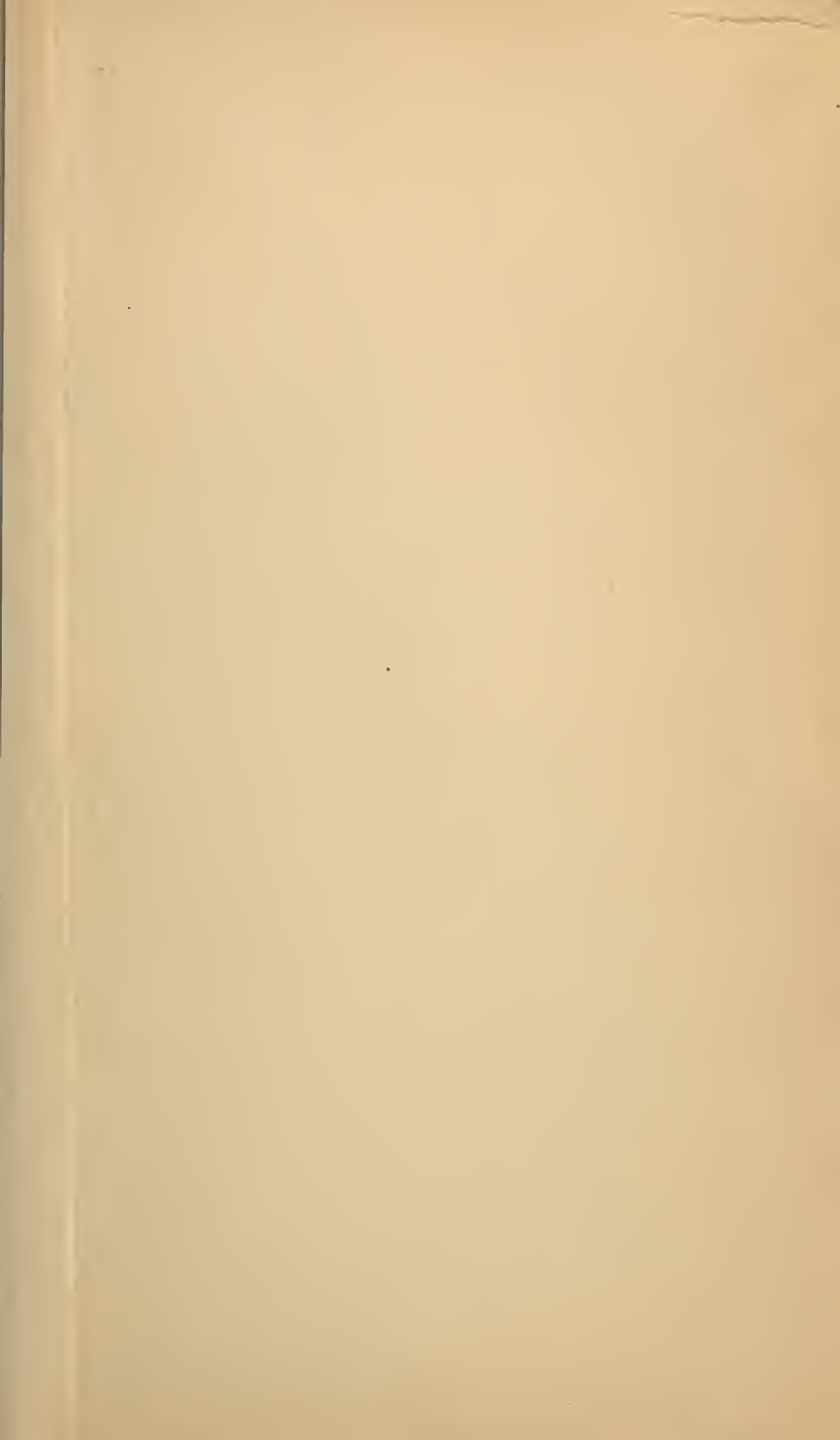
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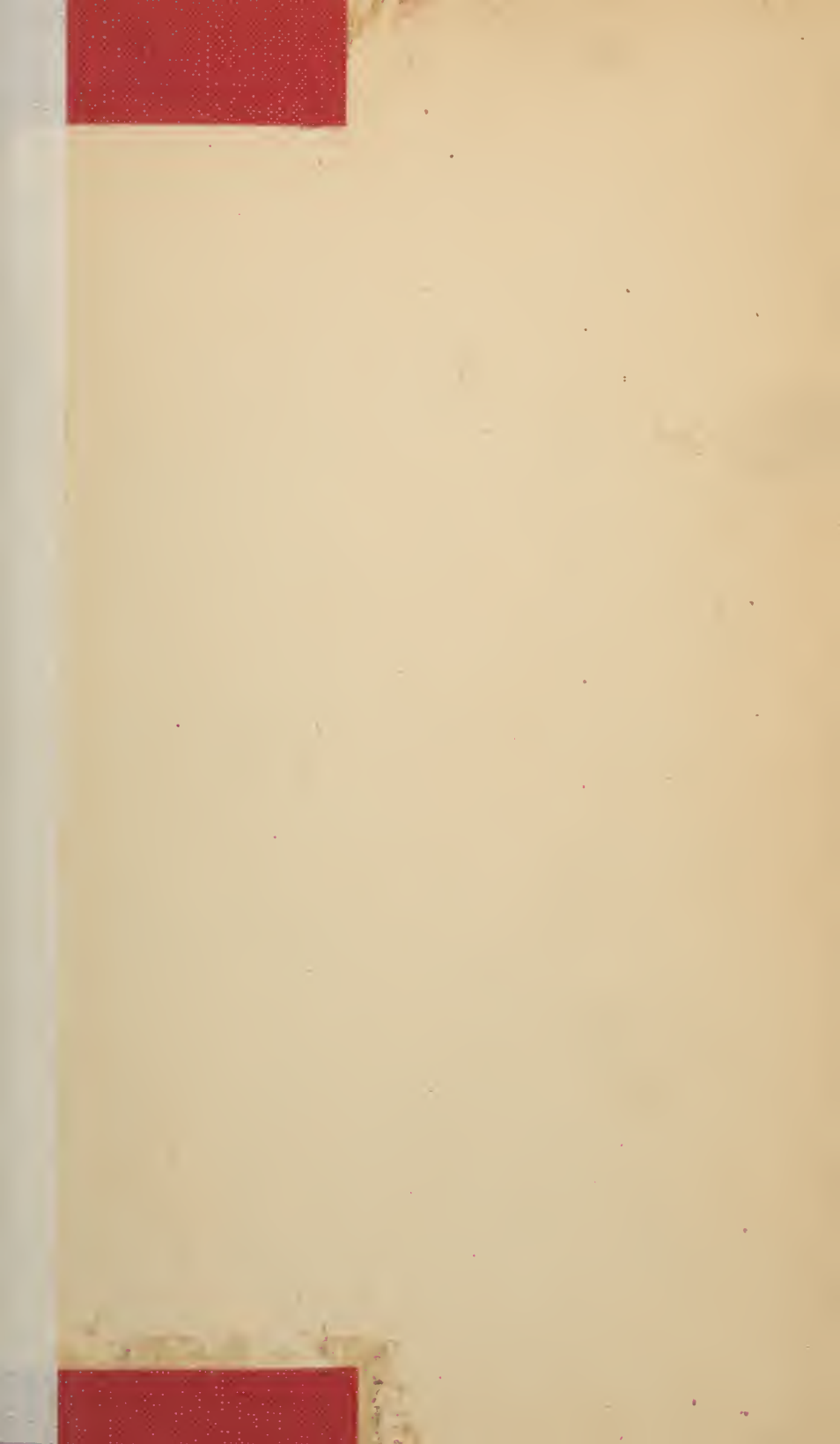
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